

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Philbert F. Marsh et al.

Appl. No. : Not Yet Assigned

Filed : Filed Herewith

Entitled : SPLIT-CHANNEL HIGH ELECTRON  
MOBILITY TRANSISTOR (HEMT) DEVICE

Docket : RTN2-152PUS

Group Art Unit: Not Yet Assigned

Examiner: Not Yet Assigned

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Certificate of Mailing (37 C.F.R. 1.8(a))

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Date of Signature  
and Mail Deposit

By: \_\_\_\_\_  
Judith C. Tarrant

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**INFORMATION DISCLOSURE STATEMENT**

Mail Stop Patent Application  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

It is desired to cite for the record in this application the enclosed documents listed on the attached copy of PTO/SB/08A (formerly Form 1449). The paragraph(s) marked below are applicable to this Information Disclosure Statement.

☒ (1) The enclosed Information Disclosure Statement is being filed: within three months of the filing date; or within three months of the entry of the national stage of the above-identified application; or before the mailing of a first Office Action on the merits; or before the mailing of a first Office Action after the filing of a request for continued examination under 37 C.F.R. §1.114. Accordingly, Applicant(s) believes that no fee or statement is required.

☐ (2) Pursuant to 37 C.F.R. § 1.97(c), the enclosed Information Disclosure Statement is being filed before the mailing date of a final action or a notice of allowance and is accompanied by the fee set forth in 37 C.F.R. § 1.17(p).

SUBMISSION UNDER 37 C.F.R. § 1.97(c) INCLUDING A STATEMENT UNDER 37 C.F.R. § 1.97(e)(1)

☐ (3) Pursuant to 37 C.F.R. § 1.97(c), the enclosed Information Disclosure Statement is being filed before the mailing date of a final action or a notice of allowance and is accompanied by a statement under 37 C.F.R. § 1.97(e)(1). The undersigned hereby states that each item of information contained in the attached Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application mailed not more than three months prior to the filing of the accompanying Information Disclosure Statement.

SUBMISSION UNDER 37 C.F.R. § 1.97(c) INCLUDING A STATEMENT UNDER 37 C.F.R. § 1.97(e)(2)

☐ (4) Pursuant to 37 C.F.R. § 1.97(c), the enclosed Information Disclosure Statement is being filed before the mailing date of a final action or a notice of allowance and is accompanied by a statement under 37 C.F.R. § 1.97(e)(2). The undersigned hereby states that no item of information contained in the accompanying Information Disclosure Statement was cited in a communication from a foreign patent

office in a counterpart foreign application, and, to the knowledge of the undersigned, after making reasonable inquiry, no item of information contained in the accompanying Information Disclosure Statement was known to any individual having a duty of disclosure as set forth in 37 C.F.R. § 1.56 (c) more than three months prior to the filing of the accompanying Information Disclosure Statement.

SUBMISSION UNDER 37 C.F.R. § 1.97(d) INCLUDING A STATEMENT UNDER 37 C.F.R. §1.97(e)(1)

[ ] (5) Pursuant to 37 C.F.R. § 1.97(d), the enclosed Information Disclosure Statement is being filed on or before payment of the issue fee and is accompanied by a statement under 37 C.F.R. § 1.97(e)(1) and the fee required under 37 C.F.R. § 1.17(p). The undersigned hereby states that each item of information contained in the accompanying Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the Information Disclosure Statement.

SUBMISSION UNDER 37 C.F.R. § 1.97(d) INCLUDING A STATEMENT UNDER 37 C.F.R. §1.97(e)(2)

[ ] (6) Pursuant to 37 C.F.R. § 1.97(d), the enclosed Information Disclosure Statement is being filed on or before payment of the issue fee and is accompanied by a statement under 37 C.F.R. § 1.97(e)(2) and the fee required under 37 C.F.R. § 1.17(p). The undersigned hereby states that no item of information contained in the accompanying Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the undersigned, after making reasonable inquiry, no item of information contained in the accompanying Information Disclosure Statement was known to any individual having a duty of disclosure as set forth in 37 C.F.R. § 1.56(c) more than three months prior to the filing of the accompanying Information Disclosure Statement.

The filing of this Information Disclosure Statement is not a representation by the undersigned as to personal knowledge of the contents of every word or phrase of the material enclosed or that reliance on other suitably trained professionals has not been made.

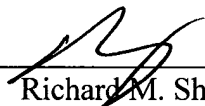
If a search report of a searching agency is enclosed identifying the nature of the relevance of each document, such a designation is deemed to satisfy Rule 98(a) (3) even if in a foreign language, since the few terms of relevance therein are deemed of universal cognizance. However, Applicant(s) does not necessarily adopt the position reflected by that report.

The Commissioner is hereby authorized to charge payment of any additional fees associated with this communication or credit any overpayment to Deposit Account No. 500845.

Respectfully submitted,

DALY, CROWLEY & MOFFORD, LLP

Dated: 4-24-03

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**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

**Complete if Known**

Sheet 1 of 1	Applicant Number	Not Yet Assigned
	Filing Date	Herewith
	First Named Inventor	Philbert F. Marsh et al.
	Art Unit	Not Yet Assigned
	Examiner Name	Not Yet Assigned
	Attorney Docket Number	RTN2-152PUS

**OTHER PRIOR ART—NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		ENOKI ET AL.; "Design and Characteristics of InGaAs/InP Composite-Channel HEFT's;" IEEE Transactions on Electron Devices, Vol. 42, No. 8, August 1995; 0018-9383/95; pages 413-418.	
		HOKE ET AL.; "Molecular Beam Epitaxial Growth and Device Performance of Metamorphic High Electron Mobility Transistor Structures Fabricated on GaAs Substrates;" J. Vac. Sci. Technol. B 17(3), May/June 1999; American Vacuum Society; 0734-211X/99/71(3)/1131/5; pages 1131-1135.	
		WHELAN ET AL.; "GaAs Metamorphic HEMT (MHEMT): An Attractive Alternative to InP HEMTs for High Performance Low Noise and Power Applications;" 2000 IEEE 0-7803-6320-5-00; pages 337-340.	
		delALAMO ET AL.; "Breakdown in Millimeter-Wave Power InP HEMT's: A Comparison with GaAs PHEMT's;" IEEE Journal of Solid-State Circuits, Vol. 34, No. 9, September 1999; 0018-9200/99; pages 1204-21.	

Examiner Signature	Date Considered
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.

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